

Applicant: Friedrich BOECKING
Docket No. R.305747
Preliminary Amdt.

NEW ABSTRACT:

Please replace the original abstract with the following new abstract:

Abstract of the Disclosure

A fuel injection device has an injection valve, a line that supplies highly pressurized fuel to the injection valve during operation, a control valve that controls the pressure in a control chamber of the injection valve, which chamber is connected to the line, and whose moving valve element is actuatable by an actuator via a hydraulic coupler having two pistons cooperating with a coupler volume of the coupler, the seat of the moving valve element having an inner cross-sectional surface area f_3 , and a conduit for filling the coupler volume with pressurized fuel via guidance gaps of the pistons. The pistons are situated one inside the other in parallel fashion; a booster chamber is situated at the ends of the pistons oriented away from the actuator; inside the outer piston, there is a filling chamber that is connected to the above-mentioned line; one of the pistons, which has a piston surface area f_4 , is mechanically coupled to the actuator by means of a rod that has a cross-sectional surface area f_5 ; the other piston, which has a piston area f_2 , actuates the control valve by means of a rod that has a cross-sectional area f_1 that is smaller than f_2 ; the direction of the closing movement of the moving valve element coincides with the direction of fuel flowing out of the control chamber so that the control valve is at least partially force-balanced due to the pressure acting on the other piston in the filling chamber.